Chapter 5 - Project Design Criteria for Listed Species

Project design criteria (PDC) are specific conservation measures designed to minimize or eliminate the likelihood of adverse affects to federally listed species based on an individual species' life history. These PDC are separated by habitat and disturbance.

Habitat PDC are designed to avoid or minimize adverse affects which may result in harm to a listed species. "Harm" is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavior patterns such as breeding, feeding, or sheltering. These criteria are also designed not to have an adverse affect on designated critical habitat and should provide beneficial effects to the constituent elements supporting critical habitat.

Disturbance PDC are designed to avoid or minimize disturbance of a listed species which may rise to the level of harassment. "Harassment" is defined by the Service as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering.

Mammals

Canada lynx

Habitat - Restoration activities[20] that reduce vegetative habitat and cover will not occur in snowshoe hare habitat. Snowshoe hare habitat is considered areas where live limb (*e.g.*, trees and shrubs) can be reached by hares at snow depth.

Disturbance - Restoration activities (*i.e.,* above local ambient noise and visual activity levels) will not occur within 0.25 miles of lynx denning habitat from May 1 to August 31.

Columbian white-tailed deer

Habitat - "Wildlife friendly" livestock fencing (BLM 1989) will be constructed in areas where Columbia white-tailed deer occur.

Disturbance - Project personnel will be instructed to reduce vehicle speeds around project sites where Columbian white-tailed deer occur to avoid vehicle-deer collisions. Project personnel will also be instructed not to approach adults or fawns at any time. Restoration activities (*i.e.,* above local ambient noise and visual activity levels) will not occur in fawning areas from June 1 to July 15.

[20] "Restoration activities" includes all actions under Project Categories I-VIII, unless otherwise specified.

Birds

Marbled murrelet

Habitat - Restoration activities that remove or degrade suitable marbled murrelet habitat will not occur within murrelet zones 1 and 2 (Appendix B) or zones A and B on the Siskiyou National Forest.

Disturbance - For project sites located within 500 feet of occupied or unsurveyed suitable habitat, restoration activities (*i.e.,* above local ambient noise and visual activity levels) will not occur during the critical nesting period from April 1 to August 5, and will only occur during daylight hours between two hours after sunrise to two hours before sunset from August 6 to September 15. Service standards being developed for disturbances to murrelets are shown in Table 4. A greater avoidance distance will be required on Service funded projects in order to be more conservative in potential murrelet disturbances.

Table 4. Harassment distances from various activities for marbled murrelets

Type of Activity	Distance at which murrelets may flush or abort a feeding attempt
Use of an impact pile driver, jackhammer, or rock drill	300 feet
Use of a helicopter or single engine airplane	360 feet
Use of heavy equipment	300 feet
Use of chainsaws	300 feet

Western snowy plover

Habitat - Restoration activities that remove or degrade suitable western snowy plover habitat will not occur. Ground disturbing activities on coastal dunes will occur during the fall and winter months before the critical nesting period (*i.e.,* March 15 to September 15).

Disturbance - Restoration activities under Project Categories I-VII will not occur within 0.25 miles of a known occupied beach during the critical nesting period. Project cooperators will coordinate with local plover monitoring biologists to identify occupied beaches. Project personnel must take appropriate measures not to attract potential avian or mammalian predators to project sites. These include eliminating human-introduced food sources, properly disposing of organic waste, and not planting vegetation that could be potential cover or perches for predators near suitable habitat. Survey, assessment, and monitoring activities (Project Category VIII) during the critical nesting period will only be conducted by qualified biologist(s) covered under a current 10(a)(1)(A) permit or other valid ESA coverage (*e.g.,* working as an agent of the state under Oregon Department of Fish and Wildlife's Cooperative Agreement).

Bald eagle

Habitat - Restoration activities that remove or degrade suitable bald eagle habitat will not occur.

Disturbance - The most recent bald eagle survey data from the Oregon Cooperative Fish and Wildlife Research Unit, Oregon State University, will be consulted to determine project proximity to known bald eagle nests. Restoration activities (*i.e.*, above local ambient noise and visual activity levels) will not occur within 0.25 miles (or 0.5 miles line-of-site) from an occupied nest during the critical nesting period from January 1 to September 1 or known winter roost areas from October 31 to April 30.

Brown pelican

Disturbance - Restoration activities (*i.e.*, above local ambient noise and visual activity levels) will not occur within 0.25 miles from an known pelican roost site.

Northern spotted owl

Habitat - Restoration activities that remove or degrade suitable northern spotted owl habitat will not occur.

Disturbance - For project sites located within 400 feet of occupied or unsurveyed suitable habitat, restoration activities (*i.e.*, above local ambient noise and visual activity levels) will not occur during the critical nesting period from March 1 to July 15, (or specific provincial critical nesting period), unless a qualified biologist confirms known owls are not nesting. Service standards being developed for disturbances to owls are shown in Table 5. A greater avoidance distance will be required on Service funded projects in order to be more conservative in potential owl disturbances.

Table 5. Harassment distances from various activities for northern spotted owls

Type of Activity	Distance at which owls may flush or abort a feeding attempt
Use of an impact pile driver, jackhammer, or rock drill	180 feet
Use of a helicopter or single engine airplane	360 feet
Use of heavy equipment	105 feet
Use of chainsaws	195 feet

Inland Fish

Warner Sucker, Oregon Chub, and Bull Trout

Habitat - Aquatic restoration activities will follow the Oregon guidelines for the timing of in-water work for each affected stream reach, unless the Oregon Department of Fish and Wildlife approves an extension based on current year site specific conditions.

Disturbance - Survey, assessment, and monitoring activities (Project Category VIII) requiring the physical capture and handling of these species will only be conducted by qualified biologist(s) covered under a current 10(a)(1)(A) permit or other valid ESA coverage.

Invertebrates

Vernal pool fairy shrimp

Habitat - For project sites located in or adjacent to a vernal pool, restoration activities will not disrupt the impermeable, sub-surface soil layer or cause the movement of soils that could be deposited into the vernal pool. Project personnel will avoid traveling through the wetted portions of a vernal pool.

Fenders blue butterfly

Habitat - Surveys will be conducted for Fender's blue butterfly during the mid-May to early July flight period on any project sites that support or may support Kincaid's, spur, or sickle-keeled lupine within the Willamette Valley.

Mechanical - Mechanical activities, occurring in occupied habitat, will be conducted when lupine and nectar plants have completed seed production and the butterflies are in diapause (*i.e.*, August 15 to February 28). Maintenance activities include: mowing, line trimming, grubbing, girdling trees, and chain saw removal of woody species. No more than 75 percent of the occupied habitat at any given site will be mowed. Untreated strips of occupied habitat, approximately twelve meters wide, will be evenly distributed throughout the mowed portions of a site. The center of a mowed area will be within 100 meters of untreated occupied habitat, which can serve as a recolonization source. Mowers will be set at a height so that the blades gouge no more than five percent of the ground.

Early spring mowing (*i.e.,* March 1 to May 15) may be used for management purposes in unoccupied habitat. Mowers will be set at a height to avoid harming low-stature native plants and gouging the ground. Mowing will not occur during this time if Kincaid's lupine is present in the unoccupied habitat.

Prescribed burns - In the fall (*i.e.*, September 1 to November 30), prescribed burns may be performed to discourage woody plant growth, remove accumulated leaf litter and duff, and encourage the spread of native prairie grasses and forbs. The annual burn unit (ABU) will be determined based on the individual site conditions and population sizes.

The ABU for sites supporting 100 or more adult Fender's may be a maximum of one-third of the occupied habitat. The ABU for sites with less than 100 adult Fender's may be a maximum of one-quarter of the occupied habitat. The center of the ABU will be within 100 meters of unburned occupied habitat, which can serve as a recolonization source. Once burned, a unit will not be re-burned for at least three years, to allow butterfly populations to rebuild. The use of fire for habitat maintenance inherently increases the risk of accidentally impacting more habitat then originally intended. In order to ensure the maximum allowable ABU will not be exceeded, project cooperators will plan to burn approximately five percent less than the annual maximum.

In order to reduce the potential fuel load, the removal of large woody plants will occur prior to burning, when feasible. Ignition of burn areas will be by hand, using propane, fusees, or drip torches. Fire control/suppression will be accomplished with the use of pre-burn hose lays, wet-lining, or fire retardant foam. Vehicles would not be operated in the areas of listed species. Additionally, where patch size allows, butterfly refugia within burn units will be protected with a fire break and/or watering down prior to a burn.

When using controlled fire as a management technique, additional consideration of subsequent annual treatments for the ABU will be necessary. That is, the year following a burn, management of that unit will be limited to manual techniques and herbicide applications. Additionally, during a burn year, management activities will also be limited for adjacent units of the site. That is, mowing will not occur on a site that is scheduled to be burned, in order to limit the maximum affected area to approximately one-third of the site.

Disturbance - Survey, assessment, and monitoring activities (Project Category VIII) requiring the physical capture and handling of this species will only be conducted by qualified biologist(s) covered under a current 10(a)(1)(A) permit or other valid ESA coverage.

Oregon silverspot butterfly

Habitat - Surveys will be conducted for Oregon silverspot butterfly within its range during the late July to early September flight period on any project sites that support or may support the western blue violet. Manual, mechanical, and biological activities (see descriptions under control and removal of invasive/non native plant species: Project Category I - Riparian Habitat Restoration [Chapter 3]) will not occur in habitats that are occupied by the butterfly or contain the violet. These activities will only occur in areas outside of these identified habitats.

Disturbance - Survey, assessment, and monitoring activities (Project Category VIII) requiring the physical capture and handling of this species will only be conducted by qualified biologist(s) covered under a current 10(a)(1)(A) permit or other valid ESA coverage.

Plants

Habitat - Surveys will be conducted during the appropriate flowering period if a project site is known to be in a suitable habitat or soil type. Surveys will be conducted by a botanist or qualified biologist (*i.e.*, recognized by the Service with appropriate botanical expertise) following standardized protocol for the specific plant. Project cooperators will coordinate with a Service botanist or qualified biologist for all proposed project sites containing listed plant species. They will decide whether to proceed with a project or develop alternatives to the project to minimize or eliminate affects to the plants.

Mechanical - Project sites occupied by listed plants species may be mowed to control or removal woody vegetation or invasive or non native vegetation when listed plants are dormant and seeds have been dispersed. Mowing activities will require the use of low ground impact equipment. Mowers will be set at a height so that blades gouge no more than five percent of the ground. All equipment will be cleaned of invasive and non native plant materials before entering an occupied site to prevent the dispersal of seeds or other reproductive plant parts.

Prescribed burns - Prescribed burns will not be conducted on project sites occupied by Willamette daisy, Gentner's fritillary, Water howellia, Western lily, Large-flowered meadowfoam, Cook's lomatium, Macfarlane's four o'clock, Rough popcornflower, Spalding's catchfly, and Howell's spectacular thelypody because relatively little is known about the effects of fire on them. If adequate information is gathered to support the use of prescribed burns to benefit these plant species, the Service consultation may be amended to include prescribed burns as a conservation and recovery technique.

Prescribed burns may be conducted on project sites occupied by Bradshaw's lomatium, Kincaid's lupine, and Nelson's checkermallow when these plants are dormant and seeds have been dispersed. Burns will be conducted to control and removal invasive and non native plant species and mimic natural fire regimes. Individual sites will not be burned more than once every two years.

Disturbance - A site specific consultation with the Service will be required for all activities involving the relocation or destruction of listed plant species. Survey, assessment, and monitoring activities (Project Category VIII) requiring the physical collection and handling of listed plant species will only be conducted by qualified botanist(s) or biologist(s) covered under a current 10(a)(1)(A) permit or other valid ESA coverage.

Anadromous Fish

Snake River Chinook salmon, Lower Columbia River Chinook salmon, Upper Willamette River Chinook salmon, Southern Oregon coho salmon, Oregon coast coho salmon, Columbia River chum salmon, Snake River sockeye salmon, Middle Columbia River steehead, Snake River Basin steelhead, Lower Columbia River steelhead, and Upper Willamette River steelhead

Habitat - Aquatic restoration activities will follow the Oregon guidelines for the timing of in-water work for each affected stream reach, unless the Oregon Department of Fish and Wildlife approves an extension based on current year site specific conditions.

Disturbance - Survey, assessment, and monitoring activities (Project Category VIII) requiring the physical capture and handling of these species will only be conducted by qualified biologist(s) covered under a current 10(a)(1)(A) permit or other valid ESA coverage.